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ABSTRACT

Forth-two elementary school children (Grades 2, 3, and 4) were tutored on a one-to-one basis by junior high volunteers (Grades 6, 7, and 8) for 12 weeks. Prior to the start of the tutoring program and following an experimental tutoring session in which tutee performance and feedback were manipulated, both the elementary and secondary students attributed responsibility for potential (pretutoring) and real (experimental) tutoring outcomes to either tutor, tutee, or tutee classroom teacher factors. Results indicated that tutees, as compared to tutors, saw their learning ability as a less important cause and saw tutor effort as a more important cause of successful and unsuccessful outcomes and for real situations. Tutees were also found to assume more responsibility for success and tutors were found to blame tutees more for lack of success in the real (and more involving) situation, thus offering partial support for notions of ego-enhancing and ego-defensive attributional biases. (Author)

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# Causal Attributions for Performance in a Cross-Age Tutoring Situation

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## Abstract

Forty-two elementary school children (grades 2, 3, and 4) were tutored on a one-to-one basis by junior high volunteers (grades 6, 7, and 8) for twelve weeks. Prior to the start of the tutoring program and following an experimental tutoring session in which tutee performance and feedback were manipulated, both the elementary and secondary students attributed responsibility for potential (pretutoring) and real (experimental) tutoring outcomes to either tutor, tutee, or tutee classroom teacher factors. Results indicated that tutees, as compared to tutors, saw their learning ability as a less important cause and saw tutor effort as a more important cause of successful and unsuccessful tutoring outcomes. These results were most marked for successful outcomes and for real situations. Tutees were also found to assume more responsibility for success and tutors were found to blame tutees more for lack of success in the real (and more involving) situation, thus offering partial support for notions of ego-enhancing and ego-defensive attributional biases.

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Causal Attributions for Performance in a Cross-Age Tutoring Situation

Cross-age tutoring has long been recognized as an effective means of individualizing classroom instruction (Gartner, Kohler, & Reissman, 1971). Although there are a number of studies concerned with measuring the effectiveness of one-to-one instruction on tutor and tutee achievement (e.g., Oakland, & Williams, 1975; Snapp, Oakland, & Williams, 1972), there is little research describing how tutorial processes are influenced by the behavior and beliefs of participanting students. The present study sought to provide information regarding one factor that may mediate learning in tutorial contexts--tutors' and tutees' causal attributions for tutorial outcomes.

In discussing the influence of perceiver perspective on causal attributions, Jones and Nisbett (1971) have suggested that individuals attribute their own behavior to environmental causes and the behavior of others to personal causes. In a tutoring situation, this proposition suggests that tutees (self-perceivers) should see their tutor as responsible for tutorial consequences whereas tutors (other-perceivers) should view their tutees as responsible. Evidence consistent with this analysis was reported by Allen and Feldman (1974). These investigatiors asked sixth graders who had taught a geometry concept to a third grader (actually a confederate) to indicate their perceptions of tutee performance. The results showed that tutors rated their own teaching as a less important cause of tutee performance than the tutee's intelligence.

The present study attempted to improve upon the Allen and Feldman (1974) experiment by measuring the specific causal factors to which tutors and tutees might assign tutorial success and nonsuccess. With regard to potential

differences in outcome valence, it was assumed that both tutor and tutee behaviors would be judged to have a stronger effect on positive than negative outcomes (Smedlund, 1963).

Futher hypotheses to be tested involved the comparison of attributions made for hypothetical and real situations (i.e., low vs. high involvement). It is reasonable to assume that students awaiting participation in a tutoring program should be less involved and thus less likely to exhibit attributional biases than students being tutored. That is, causal attributions might be expected to diverge more with variations in tutor-tutee role and outcome prior to than during tutoring.

It is somewhat more difficult to anticipate the effects of involvement on self- versus other-attribution for success and nonsuccess. Several studies can be cited demonstrating both "self-serving" (Beckman, 1970; Brandt, Hayden, & Brophy, 1975) and "nondefensive" (Ames, 1975; Ross, Bierbrauer, & Polly, 1974) biases. In view of the lack of experimental consensus in this area, the present study was designed to provide further information on the interaction between perspective and outcome on attributions as well as explore how attributions are influenced by varying levels of involvement.

## Method

### Subjects

The subjects were 94 children participating in a 12-week cross-age tutoring program as either reading tutors (6, 7, and 8th graders) or tutees (2nd, 3rd, and 4th graders). In most cases, tutors worked with children in grades two levels below their own and with children of the same sex for approximately one hour each week.

Procedure

Pretutoring (Hypothetical Outcome) attributions. A month before the program, tutees were individually asked the following items with the examiner repeating the stem and substituting a different causal alternative for each item.

Suppose after your tutor helps you, you learn how to read a lot better than you can now. Do you think that this happens:

1. because you are good at reading.
2. because your tutor teaches you a lot.
3. because you pay attention to your tutor and try hard to learn to read good.
4. because your tutor tries hard to help you learn to read good.
5. because (name of child's teacher) teaches you reading very well.

Suppose after your tutor helps you, you cannot read any better than you can now or you read worse than other children in class who also have help from tutors. Do you think that this happens:

6. because you are not that good at reading.
7. because your tutor doesn't teach you a lot.
8. because you do not pay attention to your tutor and do not try hard to learn to read good.
9. because your tutor doesn't try hard to help you learn to read good.
10. because (name of child's teacher) doesn't teach you reading very well.

In responding to the questions, the tutees were instructed to first give a yes or no answer. If a child responded "no" (indicating that the situation was not due to the cause mentioned by the examiner), the examiner

proceeded to the next item. If a child responded "yes" (indicating that the situation was due to the cause mentioned), the examiner presented the child with a sheet of paper containing four "faces" of increasing size, each of which lacked mouths. The examiner then asked the child to show him "how much" the described situation would be due to the particular cause (or how important the reason was if the child understood that concept) by drawing a "happy smile" (for success questions) or a "sad frown" (for nonsuccess questions) on the incomplete face. If a child believed that a cause was of little or moderate importance, he was asked to draw a mouth on one of the two smaller faces; if he believed that a cause was important or very important, he was asked to draw a mouth on one of the two larger faces. These responses were subsequently converted to 5-point rating scales for purpose of analysis with a "no" response equal to one and the selection of the largest face equal to five.

All tutors received a similar set of items (e.g., Suppose after you help your tutee, your tutee learns...) in written questionnaires which were administered in small group testing sessions. These items were also rated on 5-point scales and were anchored in identical fashion to the questions verbally presented to the tutees.

In sum, both tutees and tutors were asked to attribute hypothetical successful and unsuccessful tutorial consequences to (1) tutee reading ability, (2) tutor teaching ability, (3) tutee effort, (4) tutor effort, and (5) classroom teacher ability. Tutees evaluated their own hypothetical successes and nonsuccesses (self-perception) while tutors evaluated the performances of a tutee whom they had not as yet met or started to tutor (other-perception).

Experimental tutoring (Real Outcome) attributions. After the tutors and tutees had been paired and were working together for at least one month, all students, with the exception of the third-seventh grader groups (5 pairs), were asked to participate in an experimental simulation of a tutorial lesson. Two experimenters (E1 and E2), who helped to develop the program and with whom the children were familiar, picked up the elementary and junior high students in their classrooms and escorted them to a small room in the school usually used for psychological and medical evaluations.

The tutor was brought into the experimental room first by E1 and told that the tutor supervisors and schoolteachers were interested in learning more about the various ways of teaching the older children were using. The experimenter went on to inform the tutor that it was difficult to get this information by observing him in the classroom since the classrooms were somewhat noisy and overcrowded, and because tutors were often teaching different lessons from one another. The experimenter then explained that, in view of this situation, the teachers had made up a small lesson which they wanted the tutors to teach while the experimenters observed them.

All tutors accepted this rational and after agreeing to participate, were told that they were to teach an analogy lesson consisting of problems which their tutee had gotten wrong on a prior reading test (which was true). Tutors of second graders were asked to teach ten analogies and tutors of fourth graders to teach twenty analogies using any method they desired. The analogies were printed on large index cards with the correct answer available on one side for the tutor to see. The experimenter went over several problems so that the tutor understood the task and allowed the tutor time to review

the analogies and plan the lesson.

As the tutors proceeded through the deck of analogies, the two experimenters, which were present in the room, observed the teaching interaction. After the tutor had gone through all the analogy cards once, the lesson was stopped, the tutor taken out of the experimental room by E1 and the tutee's analogy performance assessed by E2.

At this point in the experiment, a manipulation intended to create differential perceptions of tutee performance was introduced. Upon reuniting the tutor and the tutee, half the pairs (nonsuccess conditions) were informed immediately by a seemingly disappointed E2 that the tutee had correctly answered less analogies than expected. The other half of the pairs (success conditions) did not receive any feedback and were allowed an additional five minutes of teaching time. In most cases, this time was sufficient for the tutee to master nearly all the analogies. At the completion of this second trial and following another measure of tutee performance by E2, both students were informed by a happily surprised E2 that the tutee had correctly answered many more analogies than expected.

Following the performance feedback (after the first trial for nonsuccess groups and the second trial for success groups), the tutor and the tutee were separated and questioned individually. As a check on the manipulation of perceived outcome, both the tutor and the tutee were asked if they thought the tutee learned more than, about the same as, or less than other children in the class who also participated in the experiment. A "more" response was considered to be consistent with the "successful" outcome and a "same" or "less" response was considered to be consistent with the "unsuccessful" outcome.

If the children indicated that "more" analogies were learned, the experimenters responded "Now you (or tutee's name) learned more in reading than most children who were taught this lesson. Do you think that this happened because...(and the experimenters filled in the five causal factors for success)." If the children indicated "same" or "less", they were asked as similar set of questions for nonsuccess.

Procedure summary. In the experiment, students attributed causation for either the successful or unsuccessful manipulated outcome, not for both success and nonsuccess as in the pretutoring interview. The questions and scales used in both assessments were similar and thus it was possible to compare the two situations.

## Results

Preliminary analyses indicated no grade effects (tutor or tutee) on pretutoring or experimental attributions and thus the data were collapsed across this variable. To assess the predictions, two-between (perspective, outcome), one-within (involvement) repeated measures analyses of variance were computed on each of the five causal factors. Since several subjects failed to endorse the correct manipulation check item, separate analyses were performed on the data from students who selected the appropriate category and all students reclassified according to their perceptions of tutee performance as assessed on this question. The results were virtually identical with the two samples and only the latter will be reported. Data on teacher attributions were uninteresting and will not be reported.

Personal attributions to the tutee. Main effects for perspective, outcome, and involvement (all $p < .05$) were obtained on tutee ability, and for outcome

and involvement (all $p < .001$) on tutee effort. Consistent with Jones and Nisbett's proposition, tutors ($M = 3.59$) perceived tutee ability to be a more important determinant of outcomes than did tutees ($M = 3.07$). In addition, success was assigned more to both ability and effort than nonsuccess to inability and lack of effort, and real events received greater attribution ratings than hypothetical events.

A significant three-way interaction ($p < .001$) on tutee ability was also obtained. As shown in Table 1, Newman-Keuls tests revealed that tutors saw tutee ability and inability as more responsible for involving events, although the results for success were marginal. Tutee exhibited the same tendency but to a more marked degree. The two groups differed only in their attributions for hypothetical success with tutors attributing more responsibility to tutee ability than tutees.

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Insert Table 1 about here

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Personal attributions to the tutor. Perspective effects on tutor effort ($p < .05$) and outcome effects on both personal causes ($p < .001$) were obtained. Again in line with Jones and Nisbett (1971), tutees ($M = 3.42$) saw tutor effort as a more important cause than did tutors ($M = 2.92$). Further, tutor attributions were greater for success than nonsuccess. Several significant interactions were also obtained on tutor effort. Tutees saw tutor effort as more responsible for tutorial outcomes than tutors only when the outcomes were success (perspective X outcome interaction). Both student groups attributed more responsibility to tutor effort for low as compared to high involvement nonsuccess but not success (outcome X involvement interaction). Finally, as shown in Table 1 tutors, as compared to tutees, tended to minimize the impact of their teaching

effort on successful experimental outcomes.

## Discussion

These findings show that children tutoring and those receiving remedial instruction evaluate the causes of tutorial consequences quite differently with tutors generally focusing on tutee factors and tutees on tutor factors. If one considers the role of the outcome of tutorial instruction, there was little evidence in support of either generalized self-serving or nondefensive biases among those children in the experiment.

Most proponents of self-serving bias notions would contend that increasing the relevance of task outcomes (i.e., involvement) for students should maximize the likelihood of obtaining attributional distortion. The present data indicated that involvement most often influenced attributions for success. As self-serving notions would predict, tutees saw their ability as more responsible for success when they were involved. The effects of involvement on tutors' attributions was less clear cut. Consistent with defensive attribution interpretations, tutors blamed tutee inability more when they were involved, but consistent with nondefensive theories credited their own effort less for involving events than did tutees. These findings underscore the need for future investigations which directly compare real versus hypothetical events on attributional parameters.

Two additional lines of research might also be suggested. First, it may well be that that the two subcomponents of involvement described by Jones and Davis (1965)--hedonic relevance and personalism--were differentially salient for tutors and tutees. That is, tutee attributions may have been primarily influenced by relevance and tutor attributions primarily influenced

by personalism. The role of various forms of involvement on teacher-student perceptions deserves additional attention. Second, it will be remembered that the present subjects were composed of children in need of remedial help and volunteer tutors. Although these are children most often involved in tutoring programs, whether the present results may be generalized to less select populations as well as the effects of attributions on tutoring behavior needs to be determined.

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Table 1

Mean Causal Attributions

| Situation | Success | | Non Success | |
|---|---|---|---|---|
| | Tutor | Tutee | Tutor | Tutee |
| **Tutee Ability** | | | | |
| Hypothetical | $3.69_{bc}$ | $1.93_{a}$ | $2.10_{a}$ | $2.26_{b}$ |
| Real | $4.39_{d}$ | $4.73_{d}$ | $4.17_{bcd}$ | $3.37_{b}$ |
| **Tutor Effort** | | | | |
| Hypothetical | $3.62_{b}$ | $4.07_{b}$ | $3.28_{bc}$ | $3.52_{bc}$ |
| Real | $2.62_{ac}$ | $4.27_{b}$ | $2.17_{a}$ | $1.82_{a}$ |

Note: Means not sharing common subscripts differ from each other ($p<.05$) by the Newman-Keuls test.